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WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY.

E. A. BIRGE, Director.

Hydrographic Map

GEOLOGICAL SURVEY
OF
18038

Lake Beulah,

Walworth County, Wis.

Together with Booth and East Troy Lakes.

Hydrography in Charge of L. S. Smith.

Field Work by L. S. SMITH and H. M. TRIPPE, 1898.

MADISON, WISCONSIN
1899

Explanation of Map.

* * *

This map shows, by means of contour lines and tints, the depth of water in lake Beulah and adjacent lakes. Most of the soundings on which the map was based were made during the winter of 1897–8, through the ice. A line of soundings was run through the axis of the lake and cross lines run to the shore at frequent intervals. The position of the soundings was carefully determined by means of chain and transit. The position of the soundings is indicated on the map by black dots. During the summer of 1898 the outline of the lake was determined by means of a special survey, and numerous additional soundings were made, to determine the extent of bars and similar features of the bottom At the same time a survey was made of East Troy lake, which had not been surveyed during the preceding winter. The outline of all of these lakes is more accurate than that given on any map hitherto published.

The lines numbered 10, 20, etc., indicate the depth of the water. The outline of the lake indicates the level of the water during the winter of 1898. The line marked "10" is drawn through the points where the water was 10 feet deep. It indicates the outline at a depth of 10 feet, or it shows approximately what the shape of the lake would be if 10 feet of water were drawn off. The next line marks the depth of 20 feet, and so on of the succeeding lines. The space between any line and that next inside indicates the distance required for the depth of water to increase 10 feet. The lines serve, therefore, to indicate the slope of the bottom, as well as the depth of the water. Where the lines are close together, as in Hateley's bay, the slope of the bottom is steep. Where they are far apart, as in Broad bay, the slope of the bottom is correspondingly gradual In order to bring out more distinctly the form of the lake basin, the depth of water is further indicated by the blue color printed in four tints. The lightest tint is given to the shoal water down to 20 feet in depth; the second tint to the depth between 20 and 40 feet; the third, between 40 and 60 feet; and the darkest tint is given to the deep water below 60 feet in Hateley's bay. In parts of the lake, the depth, as shown by the soundings, is given directly. In such cases the decimal point in the number indicates the exact position of the sounding.

In the sections of the lake the horizontal scale is the same as that of the map, but the vertical scale has

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HYDROGRAPHIC MAP
OF
LAKE BEULAH, WALWORTH CO., WISCONSIN,
TOGETHER WITH
BOOTH AND EAST TROY LAKES
PREPARED FROM SURVEYS BY THE
WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY

E. A. BIRGE, PH. D. DIRECTOR.
Hydrography in charge of L. S. Smith, C.E.
FIELD WORK BY L. S. SMITH & H. M. TRIPPE
Contour Interval = 10 Ft.
SCALE IN MILES

0 — ¼ — ½ — ¾ — 1 MILE

1898.

WAUKESHA CO.
WALWORTH CO.

T.4N. R.17 E. | T.4N. R.18 E.

2± MILES TO TROY CENTRE
C. M. & St. P. R. R.

3½ MILES TO
LAKE BEULAH STATION.
WISCONSIN CENTRAL LINE.

OUTLET
DAM
Mill Lake
Pond
BEULAH ISLAND
Brooks' Bay
BROOKS LANDING
HOTEL
A
LAKE VIEW
BUCK ISLAND
Broad Bay
Bar
SHEPPARD'S HOTEL
Gaskell's Bay
B
TWIN ISLANDS
Lower Lake
Round Lake
East Troy Lake
GILLARD'S PT.
WELDON'S PT.
K
H
G
L
Upper Lake
Very shallow
Springs
STRINGER BRIDGE
West Bay
BAR
WILMER'S POINT
Spring
Hateley's Bay
J
OAK PARK
HOTEL
Mud Lake
Springs
FAIRY ISL.
Booth Lake
ONE MILE TO
EAST TROY.

SECTIONS

A — Lake View — B — Broad Bay
LENGTH 0.7 MILE

C — GILLARDS — Round L. — Twin Islands — Lower Lake — BEULAH ISLAND — D
LENGTH 1.4 MILES

E — BROOKS' LANDING — SHEPPARD'S HOTEL — F
LENGTH 1 MILE

G — West Bay — H
LENGTH 1.2 MILES

I — GILLARD'S POINT — Hateley's Bay — J — K — BAR — L
LENGTH 0.5 MILE — LENGTH 0.3 MI.

NOTE;
THE HORIZONTAL SCALE OF THE ABOVE SECTIONS IS THE SAME AS THAT OF THE MAP. BUT THE VERTICAL SCALE HAS BEEN MAGNIFIED THREE TIMES.

Statistics.

Name of Lake.		Area.	Greatest Depth.
Booth Lake		125 Acres	25.4 ft
Beulah Lake	Upper	260 „	67.0 „
	Round	100 „	40.0 „
	Lower	550 „	54.2 „
	Mill	61 „	51.5 „
East Troy L.		81	16.8 „

*EAST OF STRINGER BRIDGE.

GEOLOGICAL & NATURAL HISTORY SURVEY LIBRARY
WISCONSIN

been magnified three times. The effect of this enlargement of the vertical scale is to exaggerate proportionately the steepness of the slope of the bottom.

In a lake so irregular as lake Beulah, it is quite possible, and indeed certain, that some structural features of the bottom have not been discovered by the soundings. It is quite probable that there are irregularities of the bottom, both elevations and depressions, which are not shown on the map. Any corrections of this nature will be gladly received by the Survey. Such corrections, however, to be useful must be made accurately, and the position of the soundings must be so located that they can be verified.

The large extent of shoal water in lake Beulah is due to the dam at the outlet by which the water has been raised so as to make one connected body of water out of a series of lakes connected by a stream.